Implementing the

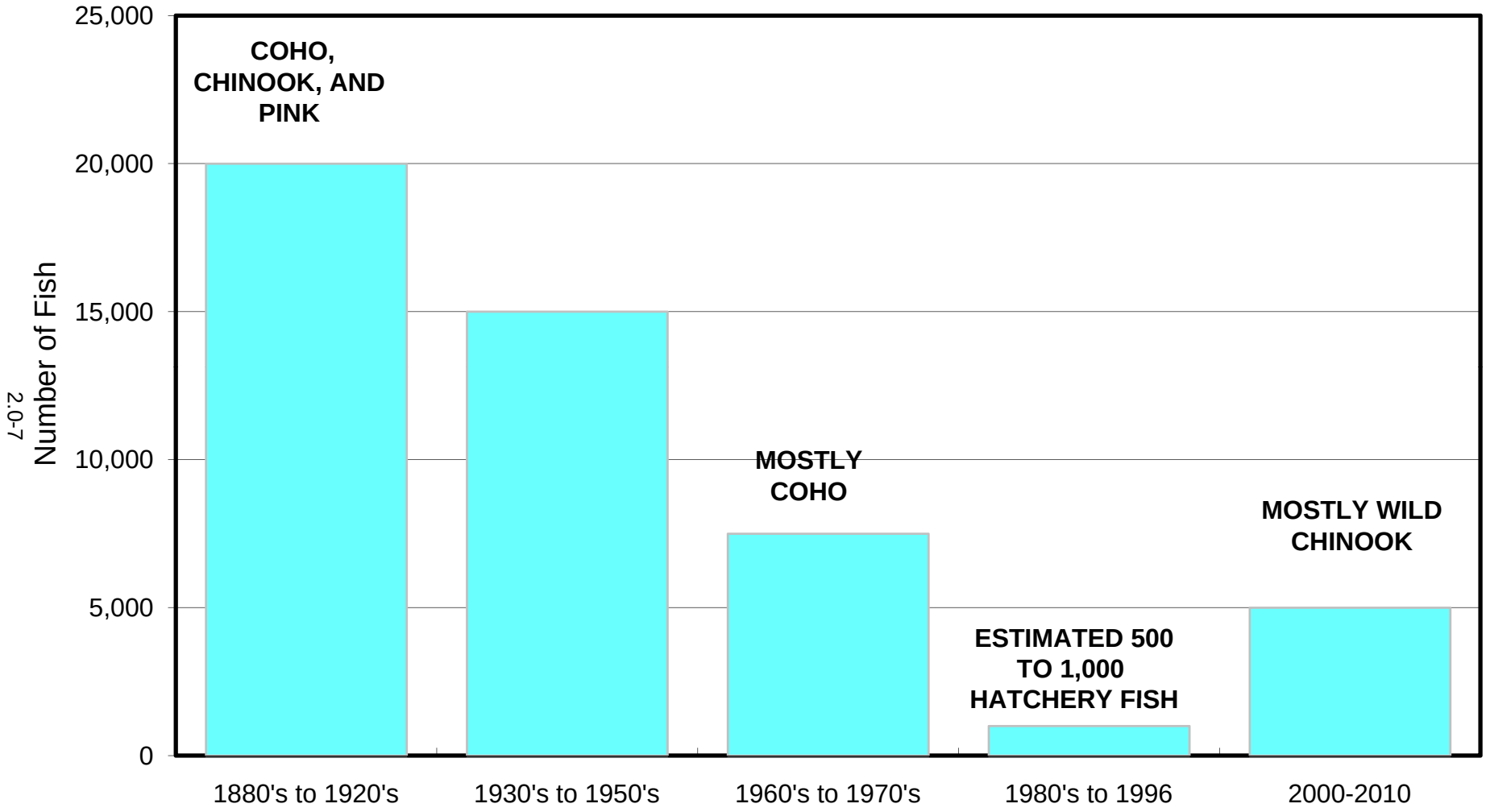
Biological Opinion for Russian River Water Supply, Flood Control Operations & Channel Maintenance

Progress 2010

National Marine Fisheries Service
December 13, 2010

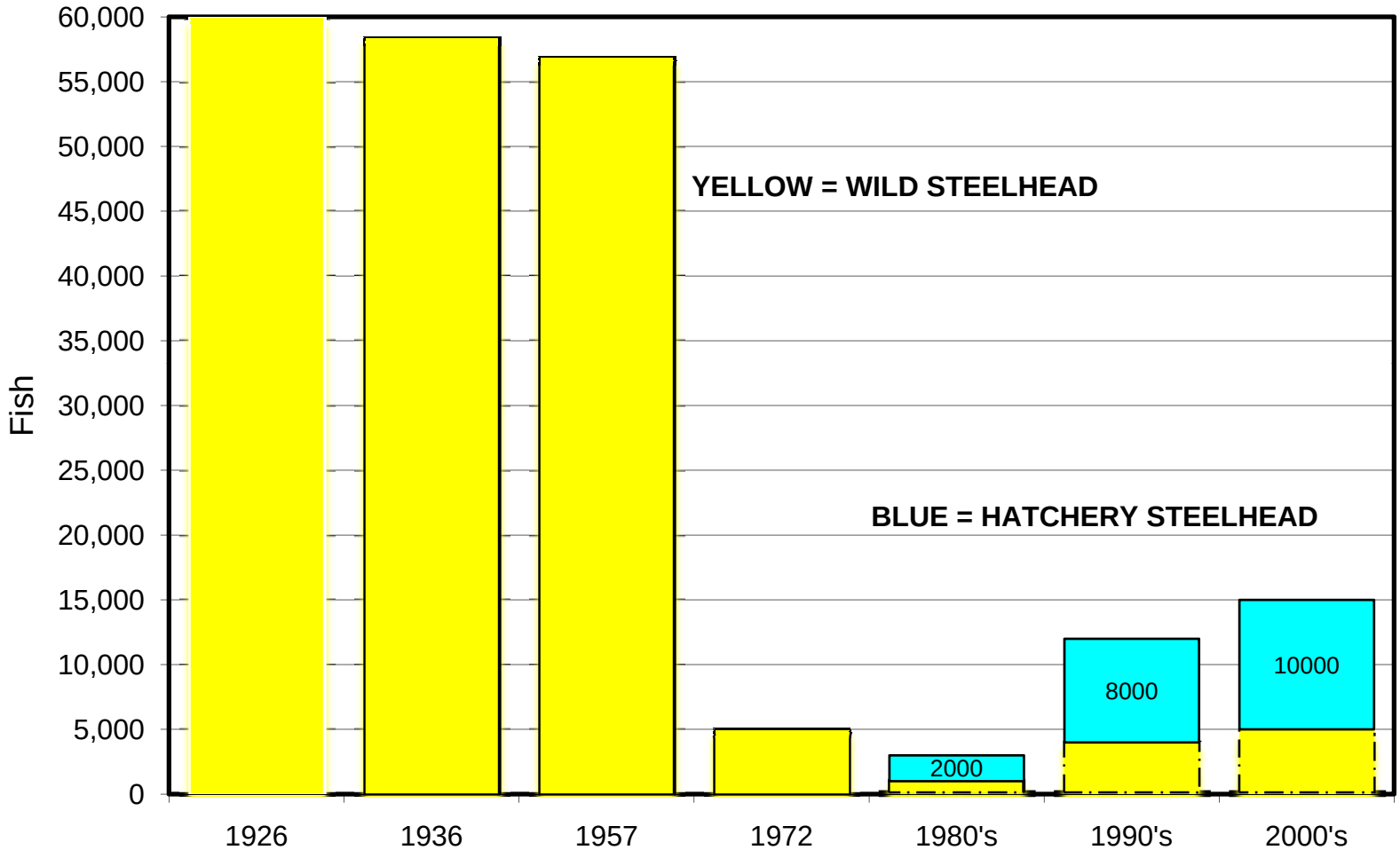
Purpose: minimize impacts of SCWA, MCRRFCD and ACOE related activities associated with water supply and flood control on Russian River and Dry Creek

- **Operations at Warm Springs Dam (WSD) and Coyote Valley Dam (CVD)**
  - **Flood Control Operations & water supply releases from dams**
- **Water level management of estuary at Jenner**
- **Modifications to D1610 Russian River flows**
- **Fish Hatchery Operations at WSD & CVD**
- **Water Diversion operations by SCWA**
- **Ongoing Channel Maintenance by SCWA and MCRRFCD**



Estimated salmon returns to the Russian River over the past 130 years

STEELHEAD COUNTS, ESTIMATED RETURNS TO THE RUSSIAN RIVER



Major findings of Biological Opinion include:

- Coldwater rearing habitat for coho salmon very limited in Russian River watershed
- Dry Creek has superabundant very cold water, but summer flows are high with excessive velocities
- Estuary summer rearing habitat very important; however, high inflows and SCWA breaching activities impact estuarine habitat
  - Russian summer flows about 7 x natural summer flow

Alternative for Dry Creek high flows: Restore tributary habitats and modify Dry Creek mainstem habitats to accommodate high flows

Tributary restorations:

5 tributary projects due in 3 years

Grape Creek habitat restoration

- Phase 1 & Phase 2 completed √

Funding for Willow Creek restoration √

Grape Creek highway passage design progressing √

2 other projects to be completed

Dry Creek mainstem

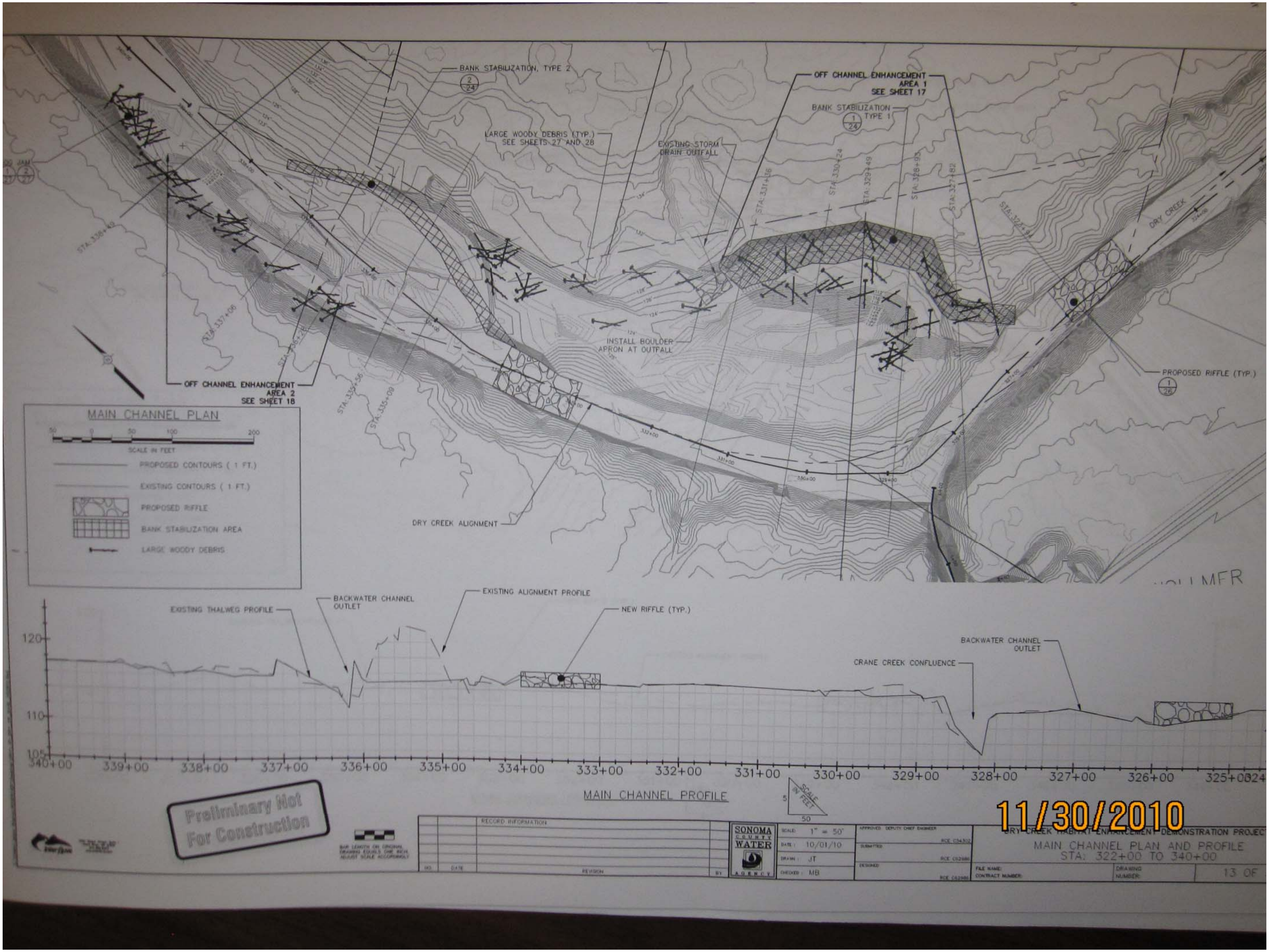
-- Dry Creek enhancements start Yr 5

-- Dry Creek Technical Advisory Committee ongoing

- Landowner support for 1st mile of habitat enhancement work

-- Inter-fluve completed 30% engineering design

-- Effort on track, although funding of Corps' portion of Dry Creek still sought and Congressional authorization pursued.


BANK STABILIZATION, TYPE 2
LARGE WOODY DEBRIS (TYP.) SEE SHEETS 27 AND 28
EXISTING STORM DRAIN OUTFALL
OFF CHANNEL ENHANCEMENT AREA 1 SEE SHEET 17
BANK STABILIZATION TYPE 1
STA. 331+36
STA. 330+24
STA. 329+49
STA. 328+93
STA. 327+82
STA. 338+42
STA. 337+06
STA. 335+56
STA. 335+09
DRY CREEK
INSTALL BOULDER APRON AT OUTFALL
PROPOSED RIFFLE (TYP.)
OFF CHANNEL ENHANCEMENT AREA 2 SEE SHEET 18
DRY CREEK ALIGNMENT
MAIN CHANNEL PLAN
SCALE IN FEET
PROPOSED CONTOURS (1 FT.)
EXISTING CONTOURS (1 FT.)
PROPOSED RIFFLE
BANK STABILIZATION AREA
LARGE WOODY DEBRIS
EXISTING THALWEG PROFILE
BACKWATER CHANNEL OUTLET
EXISTING ALIGNMENT PROFILE
NEW RIFFLE (TYP.)
BACKWATER CHANNEL OUTLET
CRANE CREEK CONFLUENCE
120
110
105
340+00
339+00
338+00
337+00
336+00
335+00
334+00
333+00
332+00
331+00
330+00
329+00
328+00
327+00
326+00
325+00
MAIN CHANNEL PROFILE
Preliminary Not For Construction
RECORD INFORMATION
NO. DATE REVISION BY
SONOMA COUNTY WATER AGENCY
SCALE: 1" = 50'
DATE: 10/01/10
DRAWN: JT
CHECKED: MB
DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
MAIN CHANNEL PLAN AND PROFILE
STA. 322+00 TO 340+00
13 OF
11/30/2010

Plan for Impacted Estuary: Create freshwater summer lagoon providing deeper, freshwater salmonid rearing habitat by:

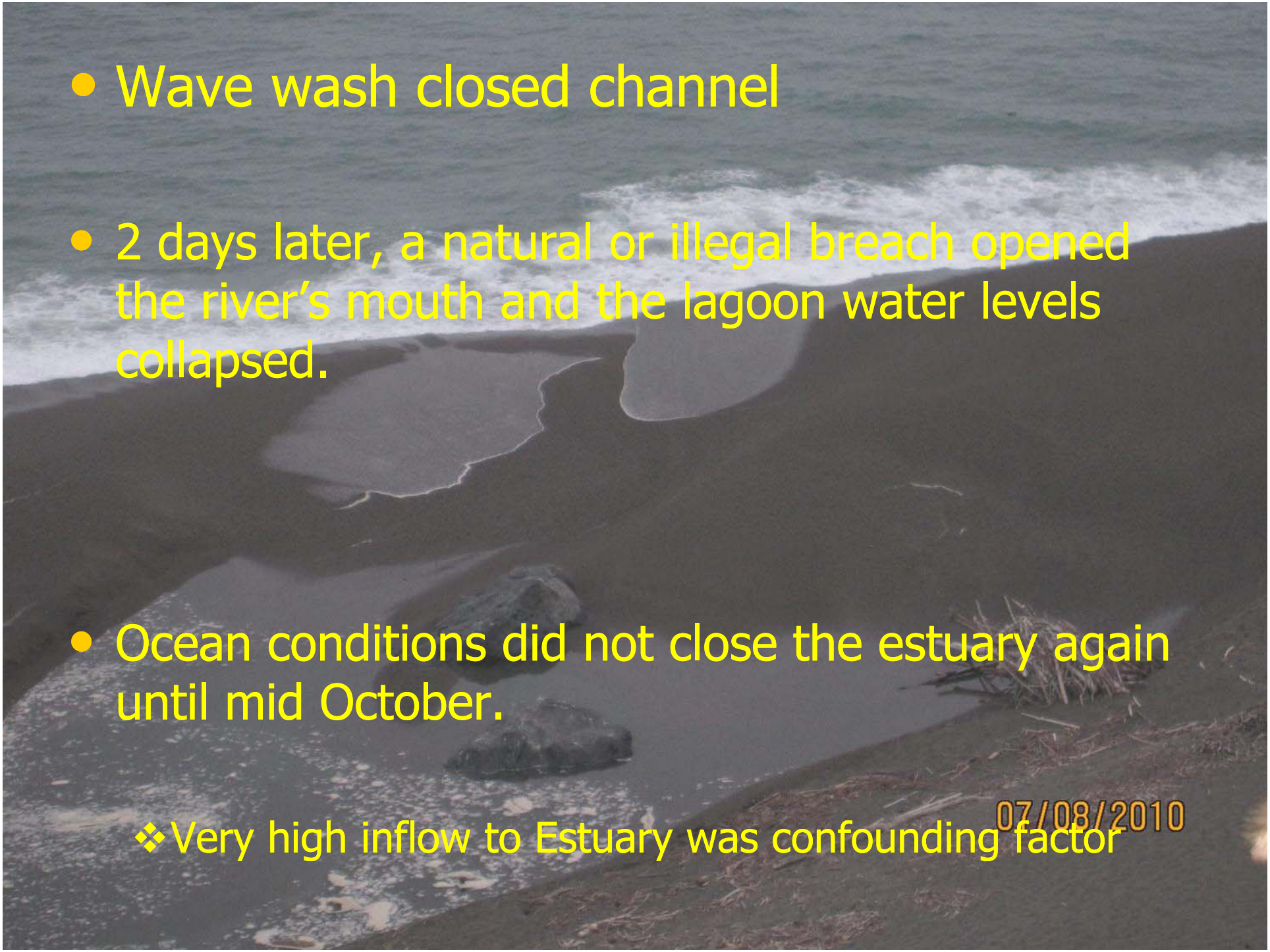
1. **Reducing summer inflows to estuary**
2. **Modifying estuary water level management practices at Jenner**

2010 Attempted implementation of Water Level Management Plan

- Harbor Seal colony monitored
- Water quality, fish populations, and macroinvertebrates monitored

2010 Estuary Management Plan EIR drafted

Early July attempted managed closure



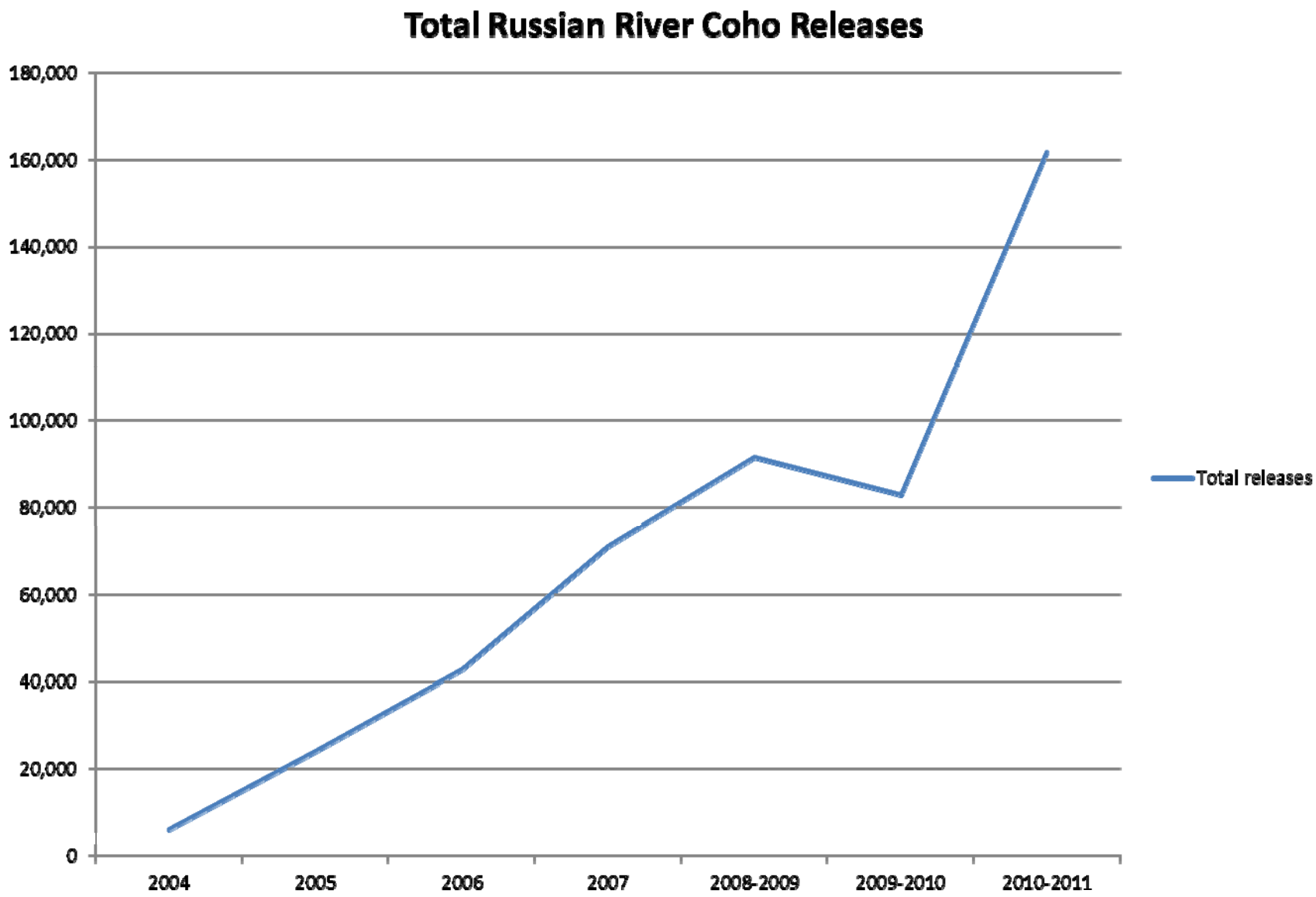
- Wave wash closed channel
- 2 days later, a natural or illegal breach opened the river's mouth and the lagoon water levels collapsed.
- Ocean conditions did not close the estuary again until mid October.
  - ❖Very high inflow to Estuary was confounding factor

Improve salmonid rearing habitat by reducing summer flows in Russian River via modification of D1610

- Purpose: improve habitat in upper Russian (above Cloverdale), and reduce estuary inflow to promote closed lagoon mgmt.
  - 2009: SCWA petitioned SWRCB to change D1610 √
  - 2010: SCWA released CEQA Notice of Preparation; held EIR scoping meetings for D1610 changes √
  - Temporary Urgency Change Petition obtained for summer 2010; needed for 2011-2015
    - Opportunity for study of recreational and water quality effects and adaptive management of estuary breaching

- **Improve hatchery management & monitoring of juvenile coho salmon**

- Important objectives: improved genetics management and field monitoring
  - 2010 funding for analysis & management of genetics for coho broodstock program,
  - rearing facilities for coho are to be upgraded at WSD
  - Field monitoring of coho broodstock program ongoing


Total Russian River Coho Releases
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2004
2005
2006
2007
2008-2009
2009-2010
2010-2011
Total releases

- Implement Fisheries monitoring
  - SCWA implementing ongoing fisheries monitoring at Mirabel Wohler
  - SCWA implementing fisheries, water quality, macroinvertebrate, and pinniped monitoring in estuary
  - SCWA conducting early, proactive fisheries monitoring in Dry Creek to resolve sampling methodology

- Additional Ongoing efforts
  - Turbidity monitoring and study of CVD
    - Corps purchased turbidity meters to be installed soon
  - Flow Ramping study at CVD
    - NMFS, SCWA, and ACOE collaborating on joint study
  - Upgrade of Water diversion screen at Mirabel
    - SCWA implementation ongoing with good progress

Salmon returns update:

- 2008/2009 returns abysmal
  - adult coho returns down about 90% since winter 2005/2006
  - adult Chinook salmon very low returns [1125]
- 2009/2010 returns improved slightly
  - Sacramento historic low
  - Russian Chinook [1800]
- 2010/2011 Preliminary Chinook returns substantially higher [about 3000]
- 2010/2011 More adult coho observed at Mirabel than in previous years (20+)